

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF NEW YORK**

MULHERN GAS CO., INC., et al.,	)	
	)	
Plaintiffs,	)	Case No. 1:23-cv-01267 (GTS/CFH)
	)	
v.	)	
	)	
WALTER T. MOSLEY, in his official Capacity as Secretary of State,	)	<b>AMICUS BRIEF IN OPPOSITION TO</b>
	)	<b>PLAINTIFFS' MOTION FOR SUMMARY</b>
	)	<b>JUDGMENT*</b>
Defendant.	)	
	)	

\*No party's counsel authored this brief in whole or in part, and no person or entity, other than amicus, their members, or their counsel contributed money that was intended to fund the preparation or submission of this brief. *See* Fed. R. App. P. 29(a)(4)(E).

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## STATEMENT OF INTEREST

Founded in 1892, Sierra Club is the nation’s oldest and largest grassroots environmental organization with more than 616,000 members nationwide, including nearly 37,000 members in New York state. For decades, Sierra Club has supported policies that limit pollution from fossil fuels and promote clean energy. Sierra Club’s Building Electrification campaign endeavors to educate the public about the health harms caused by burning methane gas in homes, offices, and federal buildings and advocates for policies that protect against such harms.

In 2020, Sierra Club co-authored a report entitled “Health Effects from Gas Stove Pollution,” which highlighted the dangers—particularly to children—posed by such appliances.<sup>1</sup> More recently, Sierra Club and partner organizations tested air quality in nearly 700 kitchens in the Washington DC metro area to measure the impact of gas stoves on nitrogen oxide levels.<sup>2</sup> In nearly two thirds of the kitchens tested, the study found significantly elevated levels of nitrogen oxide—well in excess of the federal health-based standard for outdoor air.<sup>3</sup>

In New York, Sierra Club has participated in gas distribution companies’ long-term planning dockets before the Public Service Commission, supporting the phase down of gas combustion in buildings.<sup>4</sup> Sierra Club has been an active proponent of legislation in New York that would require labeling to disclose gas stoves’ impacts on indoor air quality.<sup>5</sup> And Sierra

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<sup>1</sup> Brady Anne Seals & Andee Krasner, *Health Effects from Gas Stove Pollution* (May 2020), available at <https://rmi.org/insight/gas-stoves-pollution-health/>.

<sup>2</sup> Beyond Gas, *Cooking Up Danger* (Nov. 2024), available at <https://beyondgasdc.org/cooking-up-danger-community-study-reveals-hazardous-nitrogen-dioxide-levels-in-dc-and-maryland-kitchens/>.

<sup>3</sup> *Id.* at P3.

<sup>4</sup> *E.g.*, N.Y. Pub. Serv. Comm’n, Case Nos. 22-G-0610; 23-G-0147; 23-G-0437; 24-G-0248.

<sup>5</sup> Sierra Club Atlantic Chapter, *Memorandum of Support for S.9105-B (Kreuger)/A.9572-B (Solages)*, available at [https://drive.google.com/file/d/1WHj1E4\\_OO0SCfX42Fq1ZhPszeL5KTKD2/view](https://drive.google.com/file/d/1WHj1E4_OO0SCfX42Fq1ZhPszeL5KTKD2/view).

Club supported New York’s All-Electric Buildings law—at issue here—which represents a routine exercise of the State’s police powers to protect the public from known risks. In voicing support for the requirements of the law, Governor Hochul highlighted the important health and safety benefits.<sup>6</sup> Sierra Club has an interest in ensuring that federal law is not misinterpreted to thwart the ability of New York, other states, and localities to safeguard their residents.

## INTRODUCTION AND SUMMARY OF ARGUMENT

There is a growing public understanding that methane-gas-burning appliances inside our homes, schools, and workplaces are making us sick. While the wide-ranging health impacts attributable to emissions from gas appliances were first recognized decades ago, more recent studies have uncovered the true extent and severity of the connection. It is now indisputable that gas appliances are a leading source of both indoor and outdoor air pollution.

This pollution causes serious harm, including lung diseases, such as asthma and chronic obstructive pulmonary disease (“COPD”), cardiovascular disease, cognitive deficits, cancer, and death. Children living in homes with gas stoves are 42% more likely to experience asthma symptoms.<sup>7</sup> Nearly 13% of childhood asthma nationwide is attributable to gas stove use.<sup>8</sup> In New York that figure is over 18%—meaning nearly 60,000 childhood asthma cases “could be theoretically prevented if gas stove use was not present.”<sup>9</sup>

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<sup>6</sup> Governor Kathy Hochul, *Achieving the New York Dream: State of the State 2023* 134, available at <https://www.governor.ny.gov/sites/default/files/2023-01/2023SOTSBook.pdf>.

<sup>7</sup> Weiwei Lin et al., *Meta-Analysis of the Effects of Indoor Nitrogen Dioxide and Gas Cooking on Asthma and Wheeze in Children*, 42 Int’l J. Epidemiology 1728 (Dec. 2013), available at <https://doi.org/10.1093/ije/dyt150>.

<sup>8</sup> Talor Gruenwald et al., *Population Attributable Fraction of Gas Stoves and Childhood Asthma in the United States*, 20 INT’L J. ENV’T RSCH. & PUB. HEALTH 75 (2023), available at <https://doi.org/10.3390/ijerph20010075>.

<sup>9</sup> *Id.* at 1; N.Y. State Dept. of Health, *Information on Asthma in New York State*, available at [https://www.health.ny.gov/statistics/ny\\_asthma/](https://www.health.ny.gov/statistics/ny_asthma/) (last updated May 2023) (315,000 children in New York State had asthma in 2021).



## ARGUMENT

### I. Gas appliances emit harmful pollutants that degrade both indoor and outdoor air quality.

Termed “natural gas” by industry, the methane gas that is blended with a concoction of other chemicals and piped into homes and other buildings across the country is anything but natural.<sup>10</sup> And when combusted, the chemical reaction produces more than just heat. Combustion byproducts include carbon dioxide, nitrogen dioxide,<sup>11</sup> carbon monoxide, particulate matter, and volatile organic compounds such as formaldehyde.<sup>12</sup> In addition, gas stoves leak unburned gas containing carcinogenic pollutants such as benzene into homes at a near-constant rate even when the appliance is off.<sup>13</sup>

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<sup>10</sup> Drew R. Michanowicz et al., *Home Is Where the Pipeline Ends: Characterization of Volatile Organic Compounds Present in Natural Gas at the Point of the Residential End User*, 56 ENV'T SCI. & TECH. 10258, 10258 (June 2022), available at <https://pubs.acs.org/doi/10.1021/acs.est.1c08298> (identifying 296 volatile organic compounds aside from methane in cooking gas samples); Eric D. Lebel et al., *Composition, Emissions, and Air Quality Impacts of Hazardous Air Pollutants in Unburned Natural Gas from Residential Stoves in California*, 56 ENV'T SCI. & TECH. 15828 (Oct. 20, 2022), available at <https://pubs.acs.org/doi/pdf/10.1021/acs.est.2c02581>.

<sup>11</sup> “Nitrogen Dioxide (NO<sub>2</sub>) is one of a group of highly reactive gases known as oxides of nitrogen or nitrogen oxides (NO<sub>x</sub>). Other nitrogen oxides include nitrous acid and nitric acid. NO<sub>2</sub> is used as the indicator for the larger group of nitrogen oxides.” U.S. EPA, *Basic Information about NO<sub>2</sub>*, available at <https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2> (last updated July 16, 2024).

<sup>12</sup> U.S. EPA, *What are combustion products?*, available at <https://www.epa.gov/indoor-air-quality-iaq/what-are-combustion-products> (last updated Dec. 4, 2024); U.S. EPA, *Facts About Formaldehyde*, <https://www.epa.gov/formaldehyde/facts-about-formaldehyde> (last updated Sept. 11, 2024).

<sup>13</sup> See Eric D. Lebel et al., *Methane and NO<sub>x</sub> Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes*, 56 ENV'T SCI. TECH. 2529, 2534 (May 2022), available at <https://pubs.acs.org/doi/10.1021/acs.est.1c04707> (research results showing that “most stoves and associated nearby piping leak some methane continuously”); Michanowicz et al., *supra* n.10, at 10266 (finding benzene and other carcinogenic pollutants in gas samples from home kitchens); Yannai S. Kashtan et al., *Gas and Propane Combustion from Stoves Emits Benzene and Increases Indoor Air Pollution*, 57 ENV'T SCI. & TECH. 9653 (June 2023), <https://pubs.acs.org/doi/10.1021/acs.est.2c09289>.

**Nitrogen Dioxide.** Among the pollutants from gas combustion, nitrogen dioxide is the most prevalent and one of the most concerning. As the U.S. Environmental Protection Agency (“EPA”) recognized in 2008, “homes with gas cooking appliances have approximately 50% to over 400% higher [nitrogen dioxide] concentrations than homes with electric cooking appliances.”<sup>14</sup> Indeed, scientists at the Lawrence Berkeley National Laboratory demonstrated that up to 70% of residents living in homes with unvented<sup>15</sup> gas cooking appliances are exposed to nitrogen dioxide concentrations that exceed the National Ambient Air Quality Standard (EPA’s outdoor limit) of 100 parts per billion.<sup>16</sup> These results are closely consistent with those of the air quality testing conducted in the District of Columbia and Maryland by the Sierra Club.<sup>17</sup> In one particularly alarming study, gas oven operation alone was shown to produce enough peak nitrogen dioxide to exceed EPA’s standard within minutes.<sup>18</sup>

**Particulate Matter.** Particulate matter is another form of air pollution generated by gas appliances that poses a unique threat to human health.<sup>19</sup> PM<sub>2.5</sub>, or fine particulate matter, refers

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<sup>14</sup> U.S. EPA, *Integrated Science Assessment for Oxides of Nitrogen – Health Criteria* 2-38 (July 2008), available at <https://assessments.epa.gov/isa/document/&deid=194645#downloads>.

<sup>15</sup> Even exhaust ventilation of gas cooking appliances has proved to be less effective at reducing pollution than previously thought. See Nat’l Ctr. for Healthy Hous., *Studying the Optimal Ventilation for Environmental Indoor Air Quality* 3 (Apr. 2022), available at [https://nchh.org/resource-library/report\\_studying-the-optimal-ventilation-for-environmental-indoor-air-quality.pdf](https://nchh.org/resource-library/report_studying-the-optimal-ventilation-for-environmental-indoor-air-quality.pdf) (emissions monitoring in Chicago and New York homes found no significant reduction in NO<sub>2</sub> from ventilation and 13% to 44% reductions in other contaminants).

<sup>16</sup> Jennifer M. Logue et al., *Pollutant Exposures from Natural Gas Cooking Burners: A Simulation-Based Assessment for Southern California*, 122 ENV’T HEALTH PERSPECTIVES 43, 47, 49-50 (Jan. 2014), available at <https://pmc.ncbi.nlm.nih.gov/articles/PMC3888569/>; U.S. EPA, Review of the Primary National Ambient Air Quality Standards for Oxides of Nitrogen, 83 Fed. Reg. 17,226, 17,226–27 (April 18, 2018).

<sup>17</sup> See *supra* n.3.

<sup>18</sup> Lebel et al., *Methane and NO<sub>x</sub> Emissions*, *supra* n.13.

<sup>19</sup> National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. 38,652, 38,653–54 (July 18, 1997).

to inhalable particles with diameters that are 2.5 micrometers and smaller, and thus easily penetrate the defenses of our lungs.<sup>20</sup> PM<sub>2.5</sub> is mainly produced by “combustion processes and by atmospheric reactions of various gaseous pollutants.”<sup>21</sup> While PM<sub>2.5</sub> is a byproduct of cooking on both electric and gas stoves, emissions from gas stoves can be two times higher than from electric stoves.<sup>22</sup> There is no safe level of PM<sub>2.5</sub> exposure.<sup>23</sup>

**Carbon Monoxide.** Carbon monoxide is another harmful pollutant released by gas appliances. According to EPA, homes with gas stoves have higher carbon monoxide levels than those without.<sup>24</sup> Indeed, some gas stoves create high indoor carbon monoxide levels that nearly exceed the health-based outdoor ambient air quality standards established by EPA.<sup>25</sup>

**Cancer-Causing Compounds.** In addition to the byproducts of fossil fuel burning that have been understood for decades, newer research indicates that gas appliances also release semi-volatile organic compounds known as polycyclic aromatic hydrocarbons or PAHs,<sup>26</sup> as well

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<sup>20</sup> *Id.* at 38,654, n.5.

<sup>21</sup> National Ambient Air Quality Standards for Particulate Matter, 71 Fed. Reg. 61,144, 61,146 (Oct. 17, 2006).

<sup>22</sup> Tianchao Hu et al., *Compilation of Published PM<sub>2.5</sub> Emission Rates for Cooking, Candles and Incense for Use in Modeling of Exposures in Residences*, LBNL-5890E, 11 (Aug. 2012), available at <https://indoor.lbl.gov/publications/compilation-published-pm25-emission>.

<sup>23</sup> U.S. EPA, *Integrated Science Assessment for Particulate Matter ES-23* (Dec. 2019), available at <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=347534>.

<sup>24</sup> U.S. EPA, *Carbon Monoxide’s Impact on Indoor Air Quality*, available at <https://www.epa.gov/indoor-air-quality-iaq/carbon-monoxides-impact-indoor-air-quality> (last updated Dec. 4, 2024).

<sup>25</sup> *See id.* (gas stoves can lead to carbon monoxide concentrations over 30ppm); 40 C.F.R. § 50.8(a)(1),(2) (setting carbon monoxide ambient air quality standard at 9ppm for 8-hour exposure window and at 35ppm for a 1-hour exposure window).

<sup>26</sup> U.S. Ctr. for Disease Control, *Polycyclic Aromatic Hydrocarbons (PAHs) Fact Sheet* (Nov. 2009), available at [https://www.epa.gov/sites/default/files/2014-03/documents/pahs\\_factsheet\\_cdc\\_2013.pdf](https://www.epa.gov/sites/default/files/2014-03/documents/pahs_factsheet_cdc_2013.pdf).

as volatile organic compounds like formaldehyde<sup>27</sup> and benzene.<sup>28</sup> All of these are linked to cancer and, thus, no safe level of exposure can be recommended. A 2022 study of Boston's gas supply revealed the presence of 296 volatile organic compounds, including 21 hazardous air pollutants.<sup>29</sup> Researchers in California similarly found 12 hazardous air pollutants in gas piped into homes, including benzene in similar concentrations to those in secondhand tobacco smoke.<sup>30</sup>

## **II. Indoor air pollutants from gas appliances pose a grave public health threat.**

The continued use of gas appliances in buildings has serious health implications for the general public. Exposure to the pollutants described above has been increasingly linked to negative human health effects, including higher rates of respiratory and cardiovascular illnesses, such as childhood asthma, as well as reduced lung function and premature death.<sup>31</sup> That these pollutants are generated—and in large part remain—indoors raises even greater concerns for public welfare, given that U.S. residents spend nearly 90% of their time indoors.<sup>32</sup>

Given the robust body of scientific literature evidencing these harms, leading national health organizations are recognizing the immense public health risks associated with gas appliances. In June 2022, the American Medical Association stated that it:

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<sup>27</sup> U.S. EPA, Facts About Formaldehyde, *supra* n.13.

<sup>28</sup> Michanowicz et al., *supra* n.10, at 10266; Kashtan et al., *supra* n.13.

<sup>29</sup> Michanowicz et al., *supra* n. 10, at 10258.

<sup>30</sup> Lebel et al., *Composition, Emissions, and Air Quality Impacts*, *supra* n.11, at 15,828, 15,835.

<sup>31</sup> Andee Krasner et al., *Cooking with Gas, Household Air Pollution, and Asthma: Little Recognized Risk for Children*, 83 J. ENV'T HEALTH 8, 14 (2021).

<sup>32</sup> U.S. EPA, *The Inside Story: A Guide to Indoor Air Quality*, available at <https://www.epa.gov/indoor-air-quality-iaq/inside-story-guide-indoor-air-quality> (last updated Oct. 22, 2024); Neil E. Klepeis et al., *The National Human Activity Pattern Survey (NHAPS): A Resource for Assessing Exposure to Environmental Pollutants*, 11 J. EXPOSURE ANALYSIS & ENV'T EPIDEMIOLOGY 231, 242 (2001); see also U.S. EPA, *Report to Congress on Indoor Air Quality Volume II: Assessment and Control of Indoor Air Pollution* i (Aug. 1989), available at <https://nepis.epa.gov/Exe/ZyPDF.cgi/9100LMBU.PDF?Dockkey=9100LMBU.PDF>.

- (1) recognizes the association between the use of gas stoves, indoor nitrogen dioxide levels and asthma;
- (2) will inform its members and, to the extent possible, health care providers, the public, and relevant organizations that use of a gas stove increases household air pollution and the risk of childhood asthma and asthma severity; which can be mitigated by reducing the use of the gas cooking stove, using adequate ventilation, and/or using an appropriate air filter; and
- (3) will advocate for innovative programs to assist with mitigation of cost to encourage the transition from gas stoves to electric stoves in an equitable manner.<sup>33</sup>

In November 2022, the American Public Health Association adopted a policy acknowledging the scientific evidence linking gas stove emissions and negative health effects and called on regulatory agencies and policymakers to enact measures to abate gas appliance emissions.<sup>34</sup>

As the American Public Health Association's policy recognizes, nitrogen dioxide exposure is of particular concern because it causes asthma-related health effects.<sup>35</sup> EPA has long recognized these effects,<sup>36</sup> and has acknowledged that even short-term nitrogen dioxide exposure can cause serious respiratory health problems, such as impaired lung function, respiratory symptoms, inflammation of the airway, and asthma exacerbations requiring hospitalization.<sup>37</sup>

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<sup>33</sup> Am. Med. Ass'n, House of Delegates Report of Reference Committee D at 16-17, Res. 439, A-22 (2022), available at <https://www.ama-assn.org/system/files/a22-refcmte-d-report-annotated.pdf>.

<sup>34</sup> Am. Pub. Health Ass'n, Policy No. 20225, *Gas Stove Emissions are a Public Health Concern: Exposure to Indoor Nitrogen Dioxide Increases Risk of Illness in Children, Older Adults, and People with Underlying Health Conditions* (Nov. 8, 2022), available at <https://www.apha.org/Policies-and-Advocacy/Public-Health-Policy-Statements/Policy-Database/2023/01/18/Gas-Stove-Emissions>.

<sup>35</sup> U.S. EPA, *Fact Sheet: Review of the Primary National Ambient Air Quality Standards for Oxides of Nitrogen*, available at [https://www.epa.gov/sites/default/files/2018-04/documents/no2\\_naaqs.final\\_action.fact\\_sheet\\_4.6.18.pdf](https://www.epa.gov/sites/default/files/2018-04/documents/no2_naaqs.final_action.fact_sheet_4.6.18.pdf) (last visited Dec. 9, 2024).

<sup>36</sup> National Primary and Secondary Ambient Air Quality Standards, 36 Fed. Reg. 8186 (Apr. 30, 1971).

<sup>37</sup> Primary National Ambient Air Quality Standards for Nitrogen Dioxide, 75 Fed. Reg. 6474, 6479-80 (Feb. 9, 2010).

Exposure to nitrogen dioxide is also linked to chronic obstructive pulmonary disease (“COPD”), cardiovascular effects, diabetes, cancer, and reproductive harms.<sup>38</sup>

Exposure to PM<sub>2.5</sub> pollution has significant adverse effects on human health. Elevated PM<sub>2.5</sub> levels have been linked to premature mortality; heart attacks, strokes, worsening of chronic heart failure, and sudden cardiac death; impaired fetal and childhood lung function development; acute and chronic decreases in lung function; respiratory infections; respiratory emergency department visits, hospitalizations, and deaths; and the development and exacerbation of asthma.<sup>39</sup> Even short-term exposure can result in these adverse effects and “is likely causally associated with mortality from cardiopulmonary diseases.”<sup>40</sup>

Carbon monoxide exposure is also associated with life-threatening cardiovascular effects.<sup>41</sup> Carbon monoxide poisoning results in more than 400 deaths and more than 100,000 emergency department visits in the United States annually.<sup>42</sup> Individuals with coronary heart disease are vulnerable to adverse health effects from exposure to even low levels of carbon

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<sup>38</sup> U.S. EPA, *Integrated Science Assessment (ISA) For Oxides of Nitrogen – Health Criteria*, 1-17, 1-22 to 1-30, 5-55 (Jan. 2016), available at <https://assessments.epa.gov/isa/document/&deid=310879>.

<sup>39</sup> Clean Air Fine Particle Implementation Rule, 72 Fed. Reg. 20,586, 20,586–87 (Apr. 25, 2007). See also U.S. EPA, *Health and Environmental Effects of Particulate Matter (PM): Health Effects*, available at <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm> (last updated July 16, 2024).

<sup>40</sup> Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM<sub>2.5</sub>)—Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC), 72 Fed. Reg. 54,112, 54,128 (Sept. 21, 2007).

<sup>41</sup> U.S. EPA, *Integrated Science Assessment for Carbon Monoxide* 5-24 (Jan. 2010), available at <https://assessments.epa.gov/isa/document/&deid=218686>.

<sup>42</sup> U.S. Ctr. for Disease Control, *Carbon Monoxide Poisoning Basics*, available at <https://www.cdc.gov/carbon-monoxide/about/index.html> (last visited Dec. 9, 2024); see also Jason J. Rose *et al.*, *Carbon Monoxide Poisoning: Pathogenesis, Management, and Future Directions of Therapy*, 195 AM. J. RESPIRATORY & CRITICAL CARE MED. 596 (2017), available at <https://www.atsjournals.org/doi/full/10.1164/rccm.201606-1275CI>.

monoxide and are more likely to be admitted to the hospital due to carbon monoxide exposure.<sup>43</sup> Carbon monoxide exposure is also linked to respiratory illnesses and neurological impairment.<sup>44</sup>

Short-term exposure to benzene can lead to drowsiness, dizziness, headaches, tremors, confusion, and unconsciousness. Long-term exposure to benzene can lead to blood disorders, and, according to the American Cancer Society, has been linked to higher rates of cancer, including leukemia and other blood cancers.<sup>45</sup>

Undeniably, pollutants released by gas appliances are hazardous to humans, and new research is continuing to show direct links between the use of these appliances and adverse health impacts. A 2013 analysis estimated that children living in homes that cook with gas are 42% more likely to presently have asthma and 24% more likely to have asthma at some point during their lives.<sup>46</sup> And just last year, an analysis of childhood asthma found that nearly 13% of childhood asthma nationwide is attributable to gas stove use.<sup>47</sup>

### **III. Fossil fuel combustion in buildings contributes to unsafe outdoor air quality.**

Buildings are a major source of outdoor air pollution as well. According to data from EPA's National Emissions Inventory, combusting fossil fuels in buildings releases over 250,000 tons per year of carbon monoxide, over 460,000 tons of nitrogen oxides, and more than 15,000 tons of fine particulate matter, nationwide.<sup>48</sup> In New York alone, burning fossil fuels in buildings

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<sup>43</sup> U.S. EPA, *Integrated Science Assessment for Carbon Monoxide*, *supra* n.39 at 2-10.

<sup>44</sup> *Id.* at 2-7.

<sup>45</sup> Am. Cancer Soc'y, *Benzene and Cancer Risk*, available at <https://www.cancer.org/cancer/risk-prevention/chemicals/benzene.html> (last revised Feb. 1, 2023).

<sup>46</sup> Lin et al., *supra* n.7 at 1724.

<sup>47</sup> Gruenwald et al., *supra*, n.8.

<sup>48</sup> Data from U.S. EPA, 2017 National Emissions Inventory (NEI) Data, available at <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data#dataq>.



results in over 22,000 tons of carbon monoxide emissions, over 45,000 tons per year of nitrogen oxides, and nearly 2,500 tons of fine particulate matter each year. To put these emissions in perspective, the annual total carbon monoxide and nitrogen oxide emissions from buildings are more than double the combined emissions from all fossil fuel-fired power plants and industrial facilities in New York,<sup>49</sup> and fine particulate matter building emissions far exceed those from power generation and industry as well.<sup>50</sup>

The consequences of these emissions on ambient air quality are significant and harmful. Ground-level ozone is a highly reactive gas that is formed from the interaction of nitrogen oxides and volatile organic compounds in the presence of heat and sunlight.<sup>51</sup> Ozone exposure, even short-term exposure, is linked to chronic conditions affecting the respiratory, cardiovascular, reproductive, and central nervous systems, as well as premature mortality.<sup>52</sup> Respiratory symptoms of ozone exposure include coughing, shortness of breath, and inflammation of the airways.<sup>53</sup> Notably, ozone exacerbates asthma and can contribute to new onset asthma.<sup>54</sup> Accordingly, ozone exposure is associated with increased asthma attacks, emergency room visits, hospitalization, and medication for asthma.<sup>55</sup> Just this week, Rewiring America published

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<sup>49</sup> Fewer than 11,000 tons of carbon monoxide and fewer than 19,000 tons of nitrogen oxides.

<sup>50</sup> Fewer than 1,700 tons.

<sup>51</sup> U.S. EPA, *What is Ozone?*, available at <https://www.epa.gov/ozone-pollution-and-your-patients-health/what-ozone#> (last updated June 20, 2024).

<sup>52</sup> U.S. EPA, *Integrated Science Assessment for Ozone and Related Photochemical Oxidants* 1-5, Tbl. 1-1 (Feb. 2013), available at <https://assessments.epa.gov/isa/document/&deid=247492> [hereinafter “2013 Ozone Integrated Science Assessment”].

<sup>53</sup> U.S. EPA, *Health Effects of Ozone Pollution*, available at <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution> (last updated Apr. 9, 2024).

<sup>54</sup> *Id.* See also U.S. EPA, *Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards*, EPA-452/R-14-006 3-9, 3-18, 3-21 (Aug. 2014), available at <https://www3.epa.gov/ttn/naaqs/standards/ozone/data/20140829pa.pdf> [hereinafter “2014 Final Ozone Policy Assessment”].

<sup>55</sup> 2014 Final Ozone Policy Assessment at 3-27 to 3-28.



a study finding that substituting electric appliances for fossil fuel appliances that vent outdoors (*i.e.*, space and water heaters and clothes dryers) would produce \$40 billion in annual public health benefits including 3,400 fewer premature deaths, 1,300 fewer hospital admissions and emergency room visits, and 220,000 fewer asthma attacks.<sup>56</sup> While the health impacts of ozone are ubiquitous, certain populations are at an increased risk for ozone-related health effects including people with asthma, children, people over the age of 65, and outdoor workers.<sup>57</sup>

For years, the New York metropolitan area and Long Island counties have failed to meet health-based ambient air quality standards established by EPA. Based on air monitor data collected through the 2023 ozone season—the most current validated data—New York (Manhattan), Queens, and Suffolk Counties continually fail to meet EPA’s 70 part per billion standard for ozone by between 1 and 5 parts per billion.<sup>58</sup> Buildings play an important role in that failing air quality. Sierra Club retained an expert modeling firm to analyze the impact of emissions from New York’s buildings on ozone levels across the state. Using EPA’s modeling platform and its emissions data files, the Sierra Club-commissioned modeling found that on high ozone days buildings in New York State contributed as much as 2.5 parts per billion to air quality violations.<sup>59</sup> These results show that abating emissions from New York’s buildings—

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<sup>56</sup> Rewiring America, *Breathe Easy: Household electrification as a public health intervention to improve outdoor air quality* (Dec. 2024), available at <https://a-us.storyblok.com/f/1021068/x/f03d441bd0/breathe-easy-report-rewiring-america.pdf>.

<sup>57</sup> 2013 Ozone Integrated Science Assessment at 2-30.

<sup>58</sup> U.S. EPA, Ozone Design Values, 2023 (June 12, 2024), available at <https://www.epa.gov/air-trends/air-quality-design-values> (design values for violating monitors in Manhattan, Queens and Suffolk range from 71 to 75 parts per billion).

<sup>59</sup> Sonoma Technology, *Ozone Impacts from Building Combustion Sources on Nonattainment Areas in New York* (Sept. 2024), available at [https://www.sierraclub.org/sites/default/files/2024-09/ny\\_buildingsreport.pdf](https://www.sierraclub.org/sites/default/files/2024-09/ny_buildingsreport.pdf).

through policies such as clean building codes—would go a long way to bringing the state’s air quality to levels consistent with ambient air quality standards.

### CONCLUSION

This Court has explained that the “[r]egulation and control of matters related to public health and safety are within the police powers of the states.” *Oxygenated Fuels Ass’n, Inc. v. Pataki*, 158 F.Supp.2d 248, 254 (N.D.N.Y. 2001) (declining to find preempted New York law aiming to prevent groundwater pollution as a “public health measure clearly involving an exercise of New York’s police powers”). As set forth above, by reducing both indoor and outdoor air pollution from buildings, the All-Electric Buildings Act, once implemented through code amendments, will provide critical public health protections and therefore falls squarely within the state’s police powers. It presents no conflict with the Energy Policy and Conservation Act (“EPCA”) because it establishes no standards regarding “energy efficiency” or “energy use” for any covered appliances as those terms are defined under EPCA. Plaintiffs’ unconstrained reading of EPCA would hamstring states’ ability to protect their residents from harmful pollution in contravention of the Constitution’s reservation of this power to states. *Barnes v. Glen Theatre, Inc.*, 501 U.S. 560, 569 (1991) (“The traditional police power of the States is defined as the authority to provide for the public health, safety, and morals, and we have upheld such a basis for legislation.”). This Court should deny Plaintiffs’ requested relief.

Dated: December 13, 2024

Respectfully submitted,

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